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April 19, 2006

Mr. Garry Christensen, PE
Performance Engineer
Intermountain Power Service Corporation
850 W. Brush Wellman Road
Delta, UT 84624-9546

Re: Recommended Test Program
regarding Burner Overheating

Dear Garry,

We are sincerely concerned about the recently discovered, extensively heat damaged nozzles on the ABT burners at your plant. Be assured that we want to work with you to get to the root cause of this problem.

As we discussed with you, we have not experienced damage like that seen in your plant elsewhere. Therefore, we would like to investigate if the problem is systemic. Our hypothesis is that the burners are overheating during the periods they are out of service. Specifically, we believe that the windbox dampers are not allowing sufficient cooling air flow. So, we recommend that you attach some thermocouples to the tips of all the burners in a row and record the temperature:

- from startup to full load,
- when this row is then forced out of service, and
- as the windbox dampers are gradually opened while the row is out of service.

Rows D or H would seem to be good candidates for this test. We recommend that this data may be taken with temporary thermocouples attached about 34 inches upstream of the end of the nozzle. This will be easier to accomplish on those fuel injectors that have been disassembled. On the others, you may be able to cut a hole in the inner spin vane area and place a weld pad with the thermocouple attached.

In addition, it would be useful to measure the temperatures above on row C for comparison purposes, since row C did not appear to have damage as extensive as some other rows, such as D, H or G. We noted that the rear wall burners seemed to have somewhat worse damage than those on the front wall, also. Are there any differences in operation, instrumentation, or otherwise, that would explain this?

Please keep us in the loop on all of your burner issues. We have a great deal of experience and we want to bring all of our knowledge to bear on the problems until they are resolved.

Very truly yours,

Tom Shults

Tom Shults
Project Manager
Advanced Burner Technologies

C: Joel Vatsky, Sal Ferrara, Tarkel Larson